Clinical Practice Guidelines: Effective Smoking Cessation for Teens

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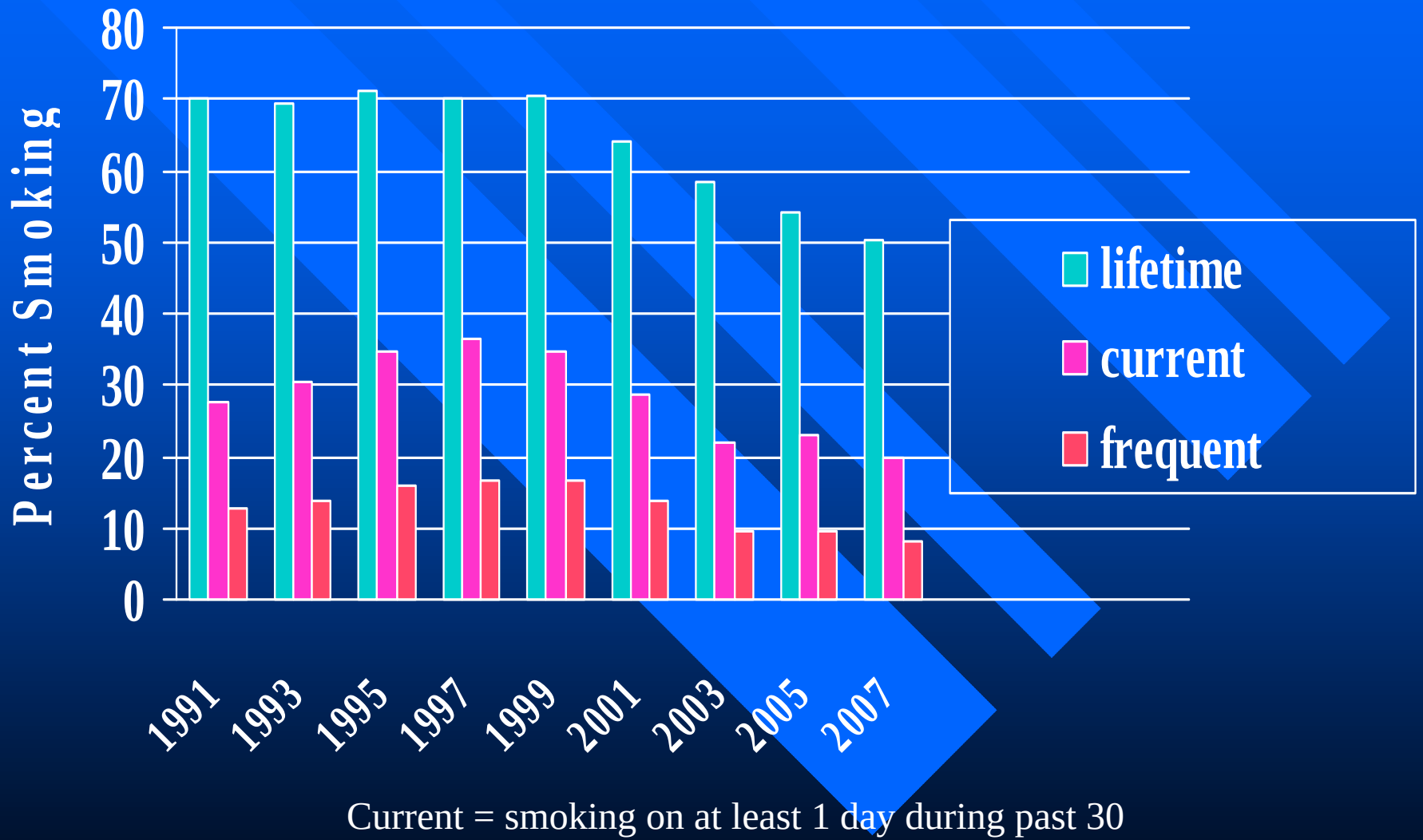
Each day, nearly 2000 children and adolescents in the United States under the age of 18 begin smoking

Trends in Adolescent Tobacco Use



Current = smoking on at least 1 day during past 30

Frequent = smoking on 20 or more days during past 30

Source: CDC Youth Risk Behavior Survey Surveillance System

Current tobacco products used by adolescents

- Cigarettes (19.7%)
- Cigars (11.8%)
- Smokeless tobacco (6.1%)
- Pipes (3.7%)
- Bidis (2.9%)
- Kreteks (2.8%)

CDC, 2006

Why is it important to understand and develop better cessation programs for adolescent smokers?

Use of cigarettes in adolescence predicts:

- Continued use of cigarettes
- Development of nicotine dependence
- Increased development of cardiovascular and pulmonary problems in adulthood
- Increased use of other substances
- Decreased academic achievement in adolescence and increased loss of productivity in adulthood

We know very little about *WHY* adolescents maintain smoking behavior and why they find it so hard to *QUIT* smoking!

Why do adolescents maintain smoking and find it so hard to quit?

- Parental smoking
- Peer smoking
- Smoking behavior is related to other substance use
- Barriers to quitting smoking
  - Increase in tobacco withdrawal symptoms
  - Increase in rates of anxiety or depressive symptoms
  - Decreased ability to deal with stressful situations
  - Cognitive changes: Decreases in concentration, memory
  - Fear of weight gain
  - Fear of being rejected by peers (false consensus bias)
  - Fear of losing control

Current Adolescent Quit Statistics

- 70% wish they had never started
- 82% are thinking about quitting
- 77% made a serious quit attempt in the past year
- Only 4% successfully quit each year
- Of daily adolescent smokers who think they won't be smoking in 5 years, nearly 75% are still smoking 5-6 years later

Use of Cessation Methods Among Youth (MMWR, 2006)

- Rates for failed quit attempts among younger smokers are higher than those for adults (43%).
- Smokers aged 16-24 years who have tried to quit were more likely to use *unassisted* methods than *assisted* methods.
- The most common *unassisted* method used by over 85% of smokers was ??

Unassisted Methods

Quitting Method	Overall %
Cut down on amount of cigarettes smoked	88.3
Stopped buying cigarettes	56.0
Exercised more	51.0
Tried to quit with a friend	47.5
Told others you no longer smoke	44.5
Switched to lighter cigarettes	36.1
Used pamphlets/videos	15.8
Switched to chewing tobacco, snuff, or other tobacco	10.1
Stopped hanging out with friends who smoke	8.4
Attended events (e.g., health fairs, Great American Smokeout)	5.5
Used herbal or alternative therapies	5.0

Current smokers aged 16-24 who have tried to quit at least once in lifetime
(National Youth Smoking Cessation Survey, 2003)

Assisted Methods

Quitting Method	Overall %
Health Professional	20.1
Nicotine gum	17.4
Nicotine patch	16.2
Bupropion	6.7
Counselor	4.8
Program/Class	2.9
Nicotine inhaler	2.6
Nicotine lozenge	2.4
Telephone helpline	2.1
Internet quit site	1.3
Acupuncture/Hypnosis	1.2
Support Group	.7
Nicotine spray	.2

Current smokers aged 16-24 who have tried to quit at least once in lifetime
(National Youth Smoking Cessation Survey, 2003)

If an adolescent enrolls in a tobacco cessation program, he/she is 2 times more likely to succeed in a quit attempt.

Clinical Practice Guidelines Clinician Recommendations

- Clinicians should ask adolescents about tobacco use and provide a strong message about abstinence
- Adolescents should be provided with counseling to aid in quitting
- To protect adolescents from second hand smoke, parents should be asked about tobacco use and offered cessation advice and assistance

5 -A Method

- ***ASK*** about tobacco use at each appointment
- ***ADVISE*** all adolescents who are smoking to stop
- ***ASSESS*** willingness to make a quit attempt
- ***ASSIST*** efforts to quit
- ***ARRANGE*** reliable follow-up

1. What cessation interventions are effective with adolescents?

2. What are the obstacles in providing smoking cessation interventions to adolescents and how do we overcome them?

3. What has our research team learned from our work with adolescent smoking cessation?

Better Practices for Youth Tobacco Cessation: Evidence of Review Panel (McDonald et al., 2003)

- **Theoretical approach used**
  - Cognitive Behavioral Interventions
    - » Goal setting, self-monitoring, development of coping skills and self-efficacy, cognitive reframing, problem solving
    - » In combination with operant techniques like contingency management
    - » In combination with motivational enhancement
- **Setting used**
  - Some evidence to suggest that school-based interventions might work better.
- **Type of treatment used**
  - Voluntary treatments are promising; mandatory treatment is not effective
- **Who provides the treatment**
  - Insufficient evidence to recommend any one more than the other


N-O-T
NOT ON TOBACCO
A TOTAL HEALTH APPROACH
TO HELPING TEENS STOP
SMOKING

NOT program

- American Lung Association program
- School and community settings
- 10 hour long weekly sessions with 4 booster sessions
- Gender-sensitive groups conducted by NOT-trained facilitators
- Based on social cognitive theory and incorporates life-skills training on self-management, social skills and influence, stress management, assertiveness, relapse prevention, management of nicotine withdrawal, weight management and family and peer pressure.
- Also utilizes role playing and relaxation and encourages healthy diet and exercise

NOT program efficacy

- Results from 1997-2002:
  - 489 schools in 5 states for a total of approximately 6000 youth
  - Quit rate = 15% compared to 8% for BI
- Kohler et al., 2008
  - 44 schools had NOT program compared to 27 controls
  - Increased likelihood of reporting 30 day abstinence at end of program but not at 6 or 12 months

Project EX

Sussman and colleagues

Project EX

- School-based, tobacco-use cessation program for high school youth 14 to 19 years of age (alternative ed)
- The program, until recently, has been delivered in a clinic setting and involves activities including games, talk shows, and alternative exercises such as yoga.
- The 8 session curriculum is delivered over a 6-week period and emphasizes coping with stress, dealing with nicotine withdrawal, relaxation techniques, and how to avoid relapse. It is a motivation-coping skills-personal commitment model of cessation.
- Recently been used in a classroom setting for smokers and nonsmokers for cessation and prevention

Project EX program efficacy

- Earlier trials:
  - Project EX demonstrated efficacy compared to standard care among alternative HS students at a 3 month follow-up (Sussman et al., 2001)
  - Project EX 30 day quit rates quit rates of 14-17% compared to control group of 3-8% quit rates (Sussman et al, 2004)
- Trial 4:
  - 6 program schools and 6 control schools
  - Students in Project EX had greater reduction in weekly and monthly smoking at 6-month and 12-month follow-up, a net change between 5.1% and 7.6% (Sussman et al., 2007)

Behavioral Interventions

Treatment	Example	EOT Cessation Rate	F/U Cessation Rate
CM (4 wks.)	Roll, 2005	50% vs. 10% (abstinence vs. attention)	66% vs. 40% (one month)
CM & CBT (4 sessions)	Krishnan-Sarin et al., 2006	53% vs. 0% (CM + CBT vs. CBT)	No data
Motivational (single session)	Colby et al., 2005	35 minute MI vs. 5 minute BA	2% vs. 0% (1 mo.) 5% vs. 0% (3 mo.) 9% vs. 2% (6 mo.)
Motivational (single session)	Helstrom et al., 2007	1 hr. MI vs. education	6% (1 mo.) 8% (6 mo.)

Pharmacological Interventions

Treatment	Example	EOT Cessation Rate	F/U Cessation Rate
NRT	Moolchan et al., 2005	20.6% (patch) 8.7% (gum) (both vs. 5% placebo)	20.6% 8.7% (both at 3 mo.)
NRT	Hanson et al., 2003	28% vs 24% (placebo)	21.4%
Bupropion	Muramoto et al., 2007	16.9% (300 mg) 10.3% (150 mg) 6.7% (placebo)	10.8% 3% 10% (26 wk.)
Combined	Killen et al., 2004	28% (N/P) 23% (N/B)	7% 8% (26 wk)

CHANTIX (vareniciline)

- Multicenter randomized double blind placebo controlled study to determine tolerability of Chantix
- 12-16 year old smokers (≥ 3 cigs/day)
- 14 days on high dose, low dose or placebo
- AEs reported by 57-73% on low and high dose compared to 12-14% on placebo (nausea, headache, vomiting, dizziness)
- Concluded that it is generally well-tolerated in adolescents
- Need to assess efficacy in smoking cessation

Obstacles to successful smoking cessation programs for adolescents

- **Recruitment and retention** in treatment programs
  - Smoking Cessation trial participation rates are 2-10%
  - Loss to follow-up rates range from 25-60%
- Adolescents experience low levels of self-efficacy and have low levels of motivation to quit
- Obtaining approval for waivers of parental consent

Adolescent Smoking Cessation: Who will participate?

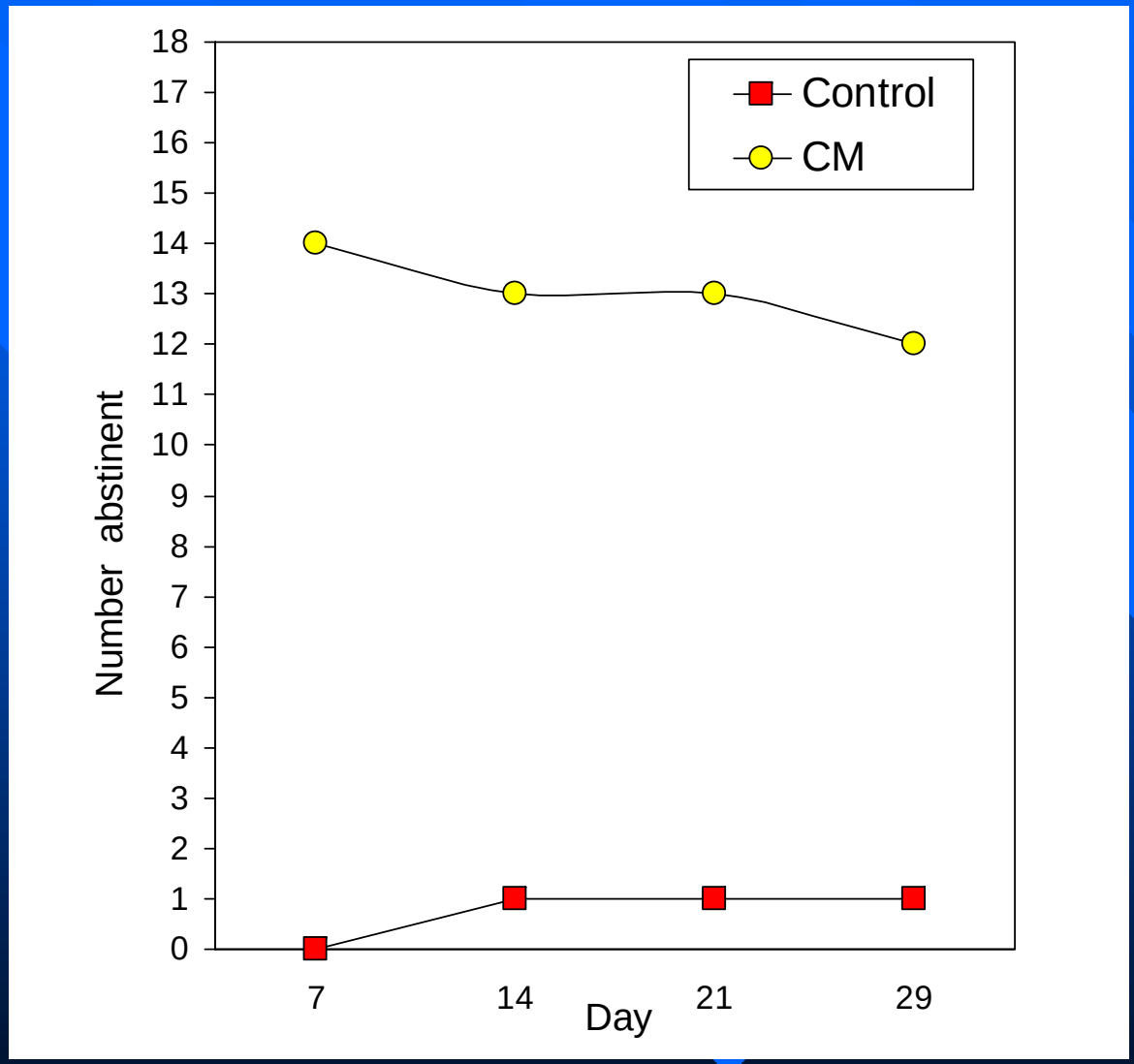
- Balch (1998) conducted focus groups with students to explore perceptions of smoking cessation and listed the following as factors that might draw them to a cessation program:
  - Small enticements
  - Short sessions
  - Easy accessibility to sessions
  - Friends to quit with

HELP YOUR HIGH SCHOOL STUDENTS QUIT SMOKING

TOBACCO RESEARCH IN YOUTH

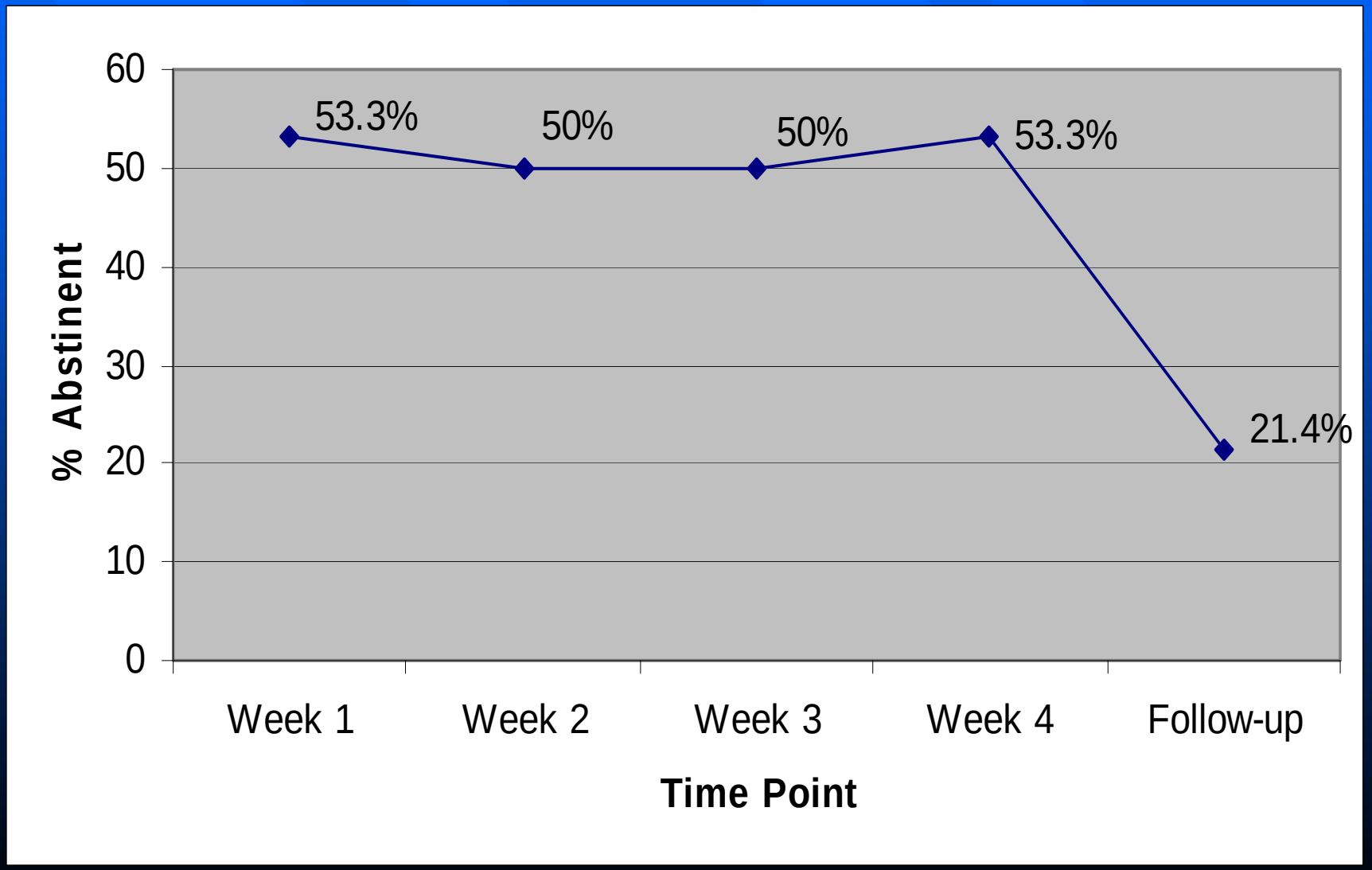
The Tobacco Research in Youth Group at Yale University School of Medicine is conducting a school-based study, funded by the National Institutes of Health, to help adolescents quit smoking.

Abstinence Rates from pilot study



n = 13 for Control group; *n* = 17 for CM group

Abstinence Rates
CM + CBT



Components of our CBT manual

- Psychoeducation
- Motivational techniques and gains from quitting
- Coping with withdrawal symptoms
- Enlisting social support
- Assessing high-risk situations
- Coping with cravings and triggers
- Smoking refusal skills/Assertiveness
- Stress reduction
- Problem solving
- Coping with a Lapse/Relapse
- Prosocial activity involvement

Abstinence Rates from 2nd study
CM + standard CBT vs. CM + brief CBT

	TOTAL Sample (N = 31)	Standard CBT	Brief CBT (FBBI)
End of Treatment	**58%**	**71%**	**47%**
2 Month follow-up	**20%**	**13%**	**29%**

Our future work…

- Current trial:

  CM + CBT vs. CM alone vs. CBT alone
- CM + CBT with random assignment to NRT (nicotine patch vs. placebo patch)
  - It is possible that the relatively modest outcomes for adolescents could be enhanced if NRT's were used in the context of robust behavioral interventions such as those in our CM-based program (Carroll and Rounsaville, 2007).
  - Impulsive smokers show lower rates of retention and abstinence
- Tobacco Free and Win programs for prevention and cessation

Motivating adolescents to quit

- Whatever works!!
- They are not motivated by hearing about future health problems related to smoking
- Focus on the immediate “health” issues (CO, breathing, smell bad, unkissable, etc.)
- Roll with resistance (use MI techniques)
- Frame anti-smoking messages as gains not losses
- Money is a HUGE motivator for adolescents (and sometimes the ONLY one!)
  - Cost of cigarettes and any incentives for quitting

Case Example

Marc is an 18 year old senior and is getting prepared to quit smoking. He lists the following gains from quitting: $ to buy a car, perform better in hockey, and nonsmoking girlfriend and brothers will be happy.

- Revisit these gains every session
- Calculate the amount of money he spends monthly and annually on cigarettes and say, “Sometimes it helps to think about what else you might do with this money?
- Reinforce successful quit attempts and maintenance of abstinence (praise and/or monetary reinforcers)
- Encourage self-efficacy by using past “successes” to motivate future successes (a previous one week quit attempt is better than a one day quit attempt)
- Maintain the spirit of MI while conducting CBT sessions

Future Directions

- Incorporating prosocial activities into CM so adolescents can be reinforced for participating in physical activity?
- Educational programs for parents to be supportive of adolescent quit attempt?
- Quitting with a peer or peer group?
- Web based treatment?
- School based treatment?
- Combination treatments?

Key Strategies

- Assess current youth tobacco prevention and cessation efforts
- Determine your organization's role in tobacco control
- Assess community needs and your organization's commitment and capacity
- Set realistic goals and expectations (cessation is a process!)

Key Strategies (cont.)

- Determine appropriate intervention based on resources and target population
- Recruit and train staff to deliver intervention
  - Youth access
  - Recruitment strategies
  - Cultural relevance of intervention
- Track the progress and outcome of the intervention

Other issues to address

- Who is going to pay? $$$
- Staff availability-who can assess and assist?
- Time requirements
- Space
- How can programs be instituted so that they are
  - Easily accessible and implemented
  - Attractive to adolescents (small incentives, peers)
  - Less likely to have attrition
  - Blend in with existing programs or consequences of smoking
  - EFFECTIVE

Maybe try these strategies?

- Increase awareness
- Target those with unsuccessful quit attempt in past year (more motivated)
- Target occasional smokers (more interested and have greater success)
- Describe benefits to the program
- Use supportive friends
- Increase confidentiality
- Provide intervention during school hours

(Leatherdale, 2006)

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